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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,631	10/08/2003	David Wayne Duckert	132949/YOD GEMS:0204	6089

7590

09/14/2005

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EXAMINER

DESTA, ELIAS

ART UNIT PAPER NUMBER

2857

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/681,631

Applicant(s)

DUCKERT ET AL.

Examiner

Elias Desta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-50 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 16 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Response to Remarks

1. The examiner accepts the amendments to the drawing and specification.

Explanation of Rejection

Claim rejection – 35 U.S.C. §101

2. 35 U.S.C. §101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-25 are rejected under 35 U.S.C. §101 as being directed to a nonstatutory subject matter.

In reference to claims 1-25: The interpretation of these claims 1-25 is that they do not expressively or implicitly require performance of any of the steps by a machine, such as general-purpose digital computer. A person having ordinary skill in the art would have done the same analysis mentally or by hand given available data. Under the most recent Federal Circuit cases, transformation of data by a machine (e.g., a computer) is a statutory subject matter provided the claims recite practical application, see State St. Bank & Trust Co. V. Signature Fin. Group, Inc., 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1600-01 (Fed. Cir. 1998).

Claim rejection – 35 U.S.C. §102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-50 are rejected under 35 U.S.C. §102(e) as anticipated by Siegel et al. (U.S. PAP 2004/0117153, hereon Siegel).

In reference to claims 1, 11, 18, 26, 30, 34, 38-45 and 48. Siegel teaches an automated self-learning diagnostic method or a method for determining a life-predicting model, which provides information about a service interval for a device (see Siegel, Fig. 1). The method includes the steps of:

- Collecting data points regarding the device or machines (see Siegel, Fig. 2, section 250, collect machine performance data from field machines);
- Comparing (correlating) one or more data points to at least one associated reliability data (see Siegel, Fig. 2, section 280, and page 3, paragraph 34 to the end);
- As for calculating service interval for the device based upon the comparison of the data points and reliability curve is Sigel

inherently includes a curve-fitted data points because a statistical distribution of performance data, as noted in Fig. 2, step 230 is data points on a table or a curve format and the operation of self-learning diagnostic system consists of checking machine or device service records for undetected failures and adjust diagnostic thresholds using correlations of data (see Siegel, page 4, paragraph 35 and Fig. 2, steps 210-290). Further, it is well known in the art that there are a number of statistical distribution models used in an application, where these statistical distributions are data-fitted after a well-defined statistical model, such as Gaussian, Normal and Z-Distribution curves to name a few.

With regard to claims 2-5, 12 and 19-20, as noted above in claims 1, 11 and 18, Siegel further teaches that the device include machines (see Siegel, Fig. 1, section 240). In the instant application, the specification on page 2 describes that the application can be used with “any device that requires periodic maintenance”; hence the invention also applies to machines.

With regard to claims 6, 13, 22, 27, 31, 35, 46 and 49, as noted in claims 1, 11, 18, 26, 30, 45 and 48, Siegel further teaches that calculating the service interval includes evaluating data collected from a continuous system monitor (see Siegel, page 1, paragraph 12, the third sentence).

With regard to claims 7 and 14 as noted above in claims 1 and 11, Siegel further teaches that the system includes a reliability data points from a database of repair records for a population of similar devices (see Siegel, page 2, paragraphs 15-17).

With regard to claims 8, 15, 23, 47 and 50 as noted above in claims 1, 11, 18, 45 and 48, Siegel further teaches that calculating service interval are dependent upon the age of the device (component stress and aging) and the environment in which the device operates (environmental conditions) (see Siegel, page 2, paragraph 28).

With regard to claims 9, 10, 16, 17, 24 and 25 as noted above in claims 1, 11 and 18, Siegel further teaches that the data points include operational (see Siegel, page 3, paragraph 31) and non-operational data points (see Siegel, page 3, paragraph 32).

With regard to claim 21 as noted above in claim 18, Siegel further teaches that selecting an optimal service interval includes comparing the service interval of each device because the diagnostic set points and thresholds are communicated by self-learning diagnostic system to the networked machines which are also providing machine service data back to diagnostic system from machine service records (see Siegel, page 3, paragraph 29).

With regard to claims 28, 29, 32, 33, 36 and 37 as noted above in claims 26, 30 and 34, Siegel further teaches that the system includes a network that connects

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all machines (devices) to a server where the server contains reliability data for a population of similar devices (see Siegel, Figs. 1, 2 and page 3 paragraph 33).

Response to Argument

Claim rejection – 35 U.S.C. § 101

6. Applicant's arguments filed June 16, 2005 have been fully considered but they are not persuasive.

In reference to claims 1-25: the examiner disagrees with the applicant's assertion that the claims represent statutory subject matter. As noted above, the interpretation of claims 1-25 is that they do not expressively or implicitly require performance of any of the steps by a machine, such as general-purpose digital computer. An ordinary skill in the art would have done the same analysis mentally or by hand given available data. There are numerous applications that mimic the alleged claims, see pages 163-165 of Kececioglu et al. (IEEE Article, 'The Modified Gompertz Reliability- Growth Model').

Claim Rejection – 35 U.S.C. § 102

7. Examiner respectfully maintains that the limitations noted in the instant claims 1-50 are fully disclosed in Siegel. For instance, as noted in the independent claims 1 and 26, the claims recite, "comparing the one or more data points to at least one associated reliability curve for population of similar devices". This limitation, as noted in several of the claims 1-50, is nothing but a statistical data

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points plotted on a two dimensional plane. This curve or historical data points, as characterized in the applicant's argument is used to correlate measured data points and help an ordinary skill in the art to estimate or calculate the service interval of a particular device.

Siegel inherently teaches the same concept in Fig. 2: steps 230, 260, 270, 280 and 290. A statistical distribution of performance data, as noted in step 230 is data points on a table or a curve format. Further, It is well known in the art that there are a number of statistical distribution models used in an application, where these statistical distributions are data-fitted after a well-defined statistical model, such as Gaussian, Normal and Z-Distribution to name a few. Hence, Siegel inherently includes some kind of distribution curve that would enable an ordinary skill in the art to estimate or check machine service records periodically for undetected failures using correlation of performance data (as noted in step 260).

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory

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action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Desta whose telephone number is (571)-272-2214. The examiner can normally be reached on M-Thu (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)-272-1750.

Elias Desta
Examiner
Art Unit 2857

-ed

September 6, 2005


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
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